

The invention in which an exclusive right is claimed is defined by the following:

1. A method for reordering data between a first predefined order and a second predefined order using a secondary processor to perform the reordering, thereby offloading the reordering of the data from a primary processor, the secondary processor reordering the data between the first predefined order and the second predefined order using an operation that was not provided for that purpose, the method comprising the steps of:

(a) enabling the secondary processor to access the data that are arranged in the first predefined order;

(b) determining subdivisions of the data that are arranged in the first predefined order, wherein each subdivision is based on a predefined size of each datum of the data;

(c) determining original positions of coordinates defining each subdivision within the data that are arranged in the first predefined order; and

(d) causing the secondary processor to perform the operation, which transforms the coordinates of each subdivision to new positions and repositions the data of each subdivision to have the same locations relative to the new positions as the data had relative to the original positions, thereby reordering the data from the first predefined order to the second predefined order.

2. The method of Claim 1, wherein the secondary processor comprises a graphics processor.

3. The method of Claim 1, wherein one of the following conditions exists:

(a) the first predefined order comprises a little endian order, and the second predefined order comprises a big endian order;

(b) the first predefined order comprises a big endian order and the second predefined order comprises a little endian order;

(c) the first predefined order comprises a pixilated little endian order, and the second predefined order comprises a big endian order; and

(d) the first predefined order comprises a pixilated big endian order, and the second predefined order comprises a little endian order.

4. The method of Claim 1, wherein the data comprise image data.

5. The method of Claim 1, wherein the operation comprises one of a draw operation and a multi-textured draw operation.

6. The method of Claim 1, wherein the step of enabling the secondary processor to access the data comprises the steps of:

(a) predefining a secondary storage space that is accessible to the secondary processor;

(b) causing the primary processor to store the data in the first predefined order in a primary storage space that is accessible to both the primary processor and the secondary processor; and

(c) causing the secondary processor to copy the data in the first predefined order from the primary storage space to the secondary storage space.

7. The method of Claim 1, wherein the step of determining the subdivisions comprises the steps of:

- (a) determining a size of each subdivision as a function of the predefined size of each datum of the data; and
- (b) determining a number of subdivisions within the data.

8. The method of Claim 1, wherein the step of determining coordinates of each subdivision comprises the step of determining vertices of each subdivision relative to an origin of the data.

9. The method of Claim 1, wherein the step of causing the secondary processor to perform the operation comprises the step of instructing the secondary processor to transpose the coordinates of each subdivision so as to mirror the data of each subdivision about a center position.

10. The method of Claim 1, further comprising the steps of:

- (a) predefining a mask for selectively retaining a subset of the data; and
- (b) applying the mask to the subdivisions to further subdivide the data into a plurality of subsets of data that are iteratively repositioned to new locations relative to the new positions, the new locations corresponding to original locations relative to the original positions.

11. The method of Claim 1, further comprising the step of determining a portion of data that changed since a previous execution cycle so that only the portion of data that changed since the previous execution cycle is reordered between the first predefined order and the second predefined order.

12. The method of Claim 1, further comprising the step of displaying the data arranged in the second predefined order.

13. A memory medium on which are stored machine instructions for carrying out the steps of Claim 1.

14. A system for reordering data between a first predefined order and a second predefined order using an operation not provided to the system for that purpose, comprising:

- (a) a primary processor;
- (b) a secondary processor in communication with the primary processor; and

- (c) a memory in communication with the primary processor and the secondary processor, the memory storing the data in the first predefined order and storing machine instructions that cause the primary processor and the secondary processor to carry out a plurality of functions, including:

- (i) accessing the data that are arranged in the first predefined order with the secondary processor;

- (ii) using the primary processor, determining subdivisions of the data that are arranged in the first predefined order, wherein each subdivision is based on a predefined size of each datum of the data;

- (iii) using the primary processor, determining original positions of coordinates defining each subdivision within the data that are arranged in the first predefined order; and

- (iv) using the secondary processor for performing the operation, thereby transforming the coordinates of each subdivision to new positions and repositioning the data of each subdivision to have the same locations relative to the new positions as the data had relative to the original positions, thereby reordering the data from the first predefined order to the second predefined order.

15. The system of Claim 14, wherein one of the following conditions exists:

(a) the first predefined order comprises a little endian order and the second predefined order comprises a big endian order;

(b) the first predefined order comprises a big endian order and the second predefined order comprises a little endian order;

(c) the first predefined order comprises a pixilated little endian order and the second predefined order comprises a big endian order; and

(d) the first predefined order comprises a pixilated big endian order and the second predefined order comprises a little endian order.

16. The system of Claim 14, wherein the machine instructions further cause the primary processor to perform the functions of:

(a) determining a size of each subdivision as a function of the predefined size of each datum of the data; and

(b) determining a number of subdivisions within the data.

17. The system of Claim 14, wherein the machine instructions further cause the primary processor to perform the function of determining vertices of each subdivision relative to an origin of the data.

18. The system of Claim 14, wherein the machine instructions further cause the secondary processor to perform the function of transposing the coordinates of each subdivision so as to mirror the data of each subdivision about a center position.

19. The system of Claim 14, wherein the machine instructions further cause the primary processor to perform the function of predefining a mask for selectively retaining a subset of the data and cause the secondary processor to perform the function of applying the mask to the subdivisions to further subdivide the data into a plurality of subsets of data that are iteratively repositioned to new locations relative to the new positions, the new locations corresponding to original locations relative to the original positions.

20. The system of Claim 14, further comprising a display in communication with the secondary processor, wherein the machine instructions further cause the secondary processor to perform the function of displaying the data arranged in the second predefined order on the display.